

SOME INSECTS ASSOCIATED WITH NESTS OF
DIANTHIDIUM DUBIUM DILECTUM TIMBERLAKE,
WITH A LIST OF THE RECORDED PARASITES
AND INQUILINES OF DIANTHIDIUM IN
NORTH AMERICA

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The purpose of this paper is to assemble the records of the various insects which have been reared from the nests of the Megachilid genus *Dianthidium* Cockerell as a basis for further studies. The opportunity is also taken to present the results obtained from rearing the inhabitants of several nests of *Dianthidium dubium dilectum* Timberlake. It now appears that partial host relationships have been established for five determined *Dianthidium* species or subspecies and additional information is also available for several undetermined forms.

The new records here reported were obtained from a series of nests of *Dianthidium dubium dilectum* Timberlake¹ collected from exposed clay shales along Upper Sulphur Creek, Santa Clara County, California on September 14, 1948. The nests were brought back to the laboratory for rearing and in the succeeding spring the following associated species emerged: *Amobia* (*Pachyophthalmus*) *floridensis* (Townsend),² *Chrysis* (*Chrysis*) *cærulans* Fabricius, *Sapyga nevadica* Cresson,³ *Stenodynerus cochisensis* (Viereck),³ and *Toxophora pellucida* Coquillett.⁴

Summarized in the accompanying table are all the nest inhabitants now known to the writers for the North American species of *Dianthidium*. These records have been listed under the trivial names in current use, regardless of how they were reported originally.

It may be seen that the known insects associated with the nests of *Dianthidium* represent three orders, the Coleoptera, Diptera,

¹ Determined by P. H. Timberlake, Citrus Experiment Station, Riverside, California.

² Determined by H. J. Reinhard, Texas A & M, College Station, Texas.

³ Determined by R. M. Bohart, University of California, Davis.

⁴ Determined by F. R. Cole, Redlands, California.

SUMMARY OF THE KNOWN ENTOMOPHAGOUS AND INQUILINE INSECTS
ASSOCIATED WITH NESTS OF THE GENUS *Dianthidium*

Dianthidium species	Associate	Locality	Authority
[species?]	<i>Nemognatha nigripennis</i> LeConte	Arizona	Schwarz, 1903
	<i>Trichodes ornatus</i> Say	California	Essig, 1934
	<i>Monodontomerus dianthi- dii</i> Gahan	California	Gahan, 1941
<i>dubium dilectum</i> Timberlake	<i>Amobia (Pachyophthal- mus) floridensis</i> (Townsend)	California	
	<i>Chrysis (Chrysis) cæru- lans</i> Fabricius	California	
	<i>Sapyga nevadica</i> Cresson	California	New records
	<i>Stenodynerus cochisensis</i> (Viereck)	California	
	<i>Toxophora pellucida</i> Coquillett	California	
<i>pudicum consimile</i> (Ashmead)	<i>Alcidamea producta</i> Cresson	California	Davidson, 1896
	<i>Monodontomerus monti- vagus</i> Ashmead	California	Davidson, 1896
	<i>Leucospis affinis</i> Say	California	Davidson, 1896
	<i>Torymus anthidii</i> Ashmead	California	
	<i>Trichodes ornatus tenel- lus</i> LeConte	California	Davidson, 1896 Davidson, 1896
	<i>Eusapyga verticalis</i> (Cresson)	California	Hicks, 1934
	<i>Sapyga minor</i> Roberts	California	Hicks, 1934
	<i>Trichodes ornatus</i> <i>ornatus</i> Say	California	Linsley & Mac- Swain, 1942
<i>pudicum decorum</i> Timberlake	<i>Odynerus (Stenodynerus)</i> sp.	Colorado	Hicks, 1927
	<i>Monodontomerus monti- vagus</i> Ashmead	Colorado	Hicks, 1927
	<i>Eusapyga proxima</i> (Cresson)	Colorado	Hicks, 1927, 1934
	<i>Eusapyga rubripes</i> (Cresson)	Nebraska	Roberts, 1933
		Colorado	Hicks, 1934
	<i>Sapyga</i> sp.	Colorado	Hicks, 1934

Dianthidium species	Associate	Locality	Authority
<i>macswaini</i>			
Timberlake	<i>Trichodes ornatus ornatus</i> Say	California	Linsley & MacSwain, 1943
<i>sayi</i> Cockerell	<i>Spogostylum daphne</i> (Osten Sacken)	Colorado	Hicks, 1926; Custer, 1928
	<i>Dasymutilla asopus</i> (Cresson) or <i>D. hector</i> (Blake)	Colorado	Hicks, 1926; Mickel, 1928

and Hymenoptera. The seven families of Hymenoptera and their respective numbers of species are as follows: Callimomidae (3), Chrysididae (1), Leucospididae (1), Megachilidae (1), Mutilidae (1), Sapygidae (6), and Vespidae (2). The Diptera are represented by two families, the Bombyliidae with two species, and the Sarcophagidae with one species. The only Coleoptera in the list are the Cleridae and the Meloidae, each with one species. Undoubtedly further collecting will greatly increase these records and also clarify the ecological relationships of the species involved.

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